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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/558,935

12/01/2005

Satoshi Furuta

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EXAMINER

KATAKAM, SUDHAKAR

ART UNIT

PAPER NUMBER

1621

MAIL DATE

DELIVERY MODE

07/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/558,935	Applicant(s) FURUTA, SATOSHI	
	Examiner Sudhakar Katakam	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Application

1. Receipt of Applicant's Remarks and Arguments filed on 30th April 2007 is acknowledged. However, the arguments for the 103(a) rejection are not found persuasive and as such, the previous rejection for the claims 1-9 has been maintained for the reasons of record in the office action dated 7th Feb 2007. In view of addition of new claims the following rejection has been issued.

Claims 1-4, 6-9 are amended, claim 5 is canceled, and claims 10-11 have been added. Claims 1-4 and 6-11 are rejected.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bayenes et al** (US 5,508,457) in view of **Ginosar et al** (US 6,887,283).

The instant claims are drawn to a method for the manufacture of an ester by transesterification, comprising the step of bringing a starting material ester and an alcohol into contact with a catalyst comprising (A) an amorphous zirconium oxide and (B) at least one oxide selected from the group consisting of aluminum oxide, phosphorus oxide and titanium oxide. The claims are further limited the method to the catalyst, which comprises a zirconium and phosphorus oxide.

Bayenes et al teach a process for the transesterification of carboxylic acid esters in presence of a catalyst comprising at least one silicate of the group IVB elements, and the said silicates can either be crystalline silicates or amorphous silicates [col. 1, lines 1-67]. The active metal component used in the catalyst according to the invention is chosen from the group IVB of the period table of elements [col. 1, lines 60-67]. Said group IVB consists of the elements titanium, zirconium, hafnium etc., and of these elements especially titanium and zirconium are preferred, whereby the best results are obtained with titanium [col. 1, lines 60-67]. **Bayenes et al** also teach triglycerides are transesterified with alkanol [col. 8, lines 22-23]. Catalyst contains 1 to 60% of group IV B element, calculated as metal [col. 8, lines 26-28].

The difference between the instant invention and **Bayenes et al** is that the instant invention the catalyst comprising an amorphous zirconium oxide and at least one oxide selected from the group consisting of aluminum oxide, phosphorus oxide and titanium oxide, whereas **Bayenes et al** teach a catalyst in which the active metal

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component is chosen from the group IVB elements. So, one of ordinary skill in the art can construct the instant applicants' catalyst using **Bayenes et al** teaching of metals chosen from group IVB elements for the catalyst for transesterification reaction with a reasonable expectation of success. The dependent claim further limited the method to a catalyst, which comprises a zirconium and phosphorus oxide, whereas **Bayenes et al** is silent on this component. The teachings of **Ginosar et al** cure this deficiency.

Ginosar et al teaches a transesterification reaction in presence of a catalyst, such as non-crystalline inorganic oxides such as alumina, oxides of phosphorus, zirconium dioxide, as well as mixtures of the above group [col. 4, lines 60-67 through col. 5, lines 1-7].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of **Bayenes et al**, and **Ginosar et al**. to arrive instant claims method of manufacture of ester by transesterification. One would have been motivated to do this because **Bayenes et al** teach group IVB silicates possess very good catalytic properties in the transesterification reactions [col. 1, lines 52-55], and **Ginosar et al** teach transesterification reactions using non-crystalline inorganic oxides, such as alumina, oxides of phosphorous, titanium oxide, zirconium dioxide etc. [col. 4, lines 60-67 through col. 5, lines 1-7]. Therefore, one would combine the teachings of **Bayenes et al**, and **Ginosar et al** in order to provide a better catalyst system for the transesterification reactions. For the foregoing reasons the instant claimed composition is made obvious.

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4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

5. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Correspondence

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhakar Katakam whose telephone number is 571-272-9929. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S. Katakam
7/19/07

J. PARSA
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'J. Parsa', is written over the printed name and title.